FACTORS THAT AFFECT ACCOUNTING INFORMATION SYSTEM PERFORMANCE AT CONSUMER GOODS COMPANIES IN MEDAN

[1]Noviani, [2]Iskandar Muda, [3]Keulana Erwin
[1,2,3]Universitas Sumatera Utara
noviani.pascasarjanaekonomi@gmail.com

Abstract *: The objective of the research was to analyze some factors which influenced the Performance Of Accounting Information System at Consumer Goods Companies in Medan. The Research used associative causal methods. The population was 287 IT Managers Of Consumer Goods In Medan, and all of them were used as the samples, using census sampling technique. The data were gathered by using questionnaires and analyzed by using multiple linear regression analysis with an SEM (Structural Equation Modeling) program. The result of the research showed that the involvement of users in the system development process, personal tecnical ability in information system, organization size, top management support, formalization of information system development, training and education program for users, and users' satisfaction partially had significant effect on the performance of accounting information system. Simultaneously, the involvement of users in the system development process, personal technical ability in information system, organization size, top management support, formalization of information system development, training and education program for users, and users' final satisfaction had significant effect the performance of accounting information system.*

Keywords: *involvement of users in the system development process, personal technical ability in information system, organization size, top management support, formalization of information system development, training and education program for users, and users' final satisfaction had significant influence the performance of accounting information system.*

1. Introduction

In today's business environment, the role of good information technology and information systems is no longer doubtful in supporting the ability of business units to win business competition. It is expected to be able to encourage the turnover accelaration and business operations that are useful for increasing the efficiency and effectiveness of work in each part**.** The computer-based information system is an integrated information system to serve the resource planning needs of all relevant departments, the system ends in accounting information systems.

That important the role of the right Information System for business interest and enterprises results the decision making to choose the information system to be used is a very important decision. Tambunan (2001) based on the fact that errors in choosing and running an information system can result the existing business processes being hampered, thus losses in various forms for the business entity, such as the loss of time and income opportunities in the future. Errors in running this information system can be caused by the lack of the employee participation in developing the Information System carried out by the company.

Fast Moving Consumer Goods (FMCG) is a product that has a quick earnings turnover, and relatively low in cost and has a relatively short life because of its quick damaged characteristic. The number of Fast Moving Consumer Goods (FMCG) sales in Medan is still insufficient and unsatisfactory to cover all the existing stores; this can obstruct the personal performance of Information System because it does not achieve sales targets in selling affects sales person does not receive incentive.

The Low personal technical ability of Information Systems in Consumer Goods is caused by educational background that is not in accordance with the tasks assigned to the person. The lack of education and training programs held by companies in Consumer Goods is also one of the obstacles to running the Information System well.

Consequently, Consumer Goods Companies must prepare themselves more towards integrating of each activity and do not consider the technology and information as an separateing parts of companies that only handle technological aspects but integrate them throughout the company business strategy. Decision making on the implementation of information systems by enterprises is generally influenced by many factors. These factors can be directly related to business operations and be indirectly. The existence of technological developments has an impact on consumer goods companies that also use accounting information systems to run their businesses. In addition to requie an accurate information in data processing, the existing information systems are also used to facilitate employees in checking their goods, making financial reports easier, making decisions and others. From the information system used, it can be seen that the management of the organization is good or not.

From the description above, the researcher is motivated to study further and conduct a research entitled "Factors that Affect the Accounting Information Systems Performance at Consumer Goods Company in Medan.

1.1. Formulation of the problem

Based on the research background, two research problems can be formulated as follows:

1. Do user participation in the system development process, the personal technical ability of information systems, organizational size, top management support, formalization of information system development, user training and education programs, and end-user satisfaction partially affect on the performance of accounting information systems?
2. Do user participation in the system development process, the personal technical ability of information systems, organizational size, top management support, formalization of information system development, user training and education programs, and end-user satisfaction simultaneously affect on the performance of accounting information systems?

2. Literature And Development Of Hypothesis

2.1 Accounting information system

The accounting information system consists of three elements, namely: systems, information, and accounting. Gelinas, Oram and Wiggins (2004) define the information systems is as a man-made system generally consists of a series of computer-based

integrated components and manuals set to collect, store, manage data, information with the result that it becomes a useful output to the users.

The purpose and benefits of accounting information systems are:

1. Collect and store data on the activities and transactions made by the company, thus the organization, management, employees, other parties can look back on the activities that have been done in the past.
2. Process data to be useful information in making decisions, allow management to plan, implement and control the activities.
3. Provide security for the organizational actions including data. This controlling ensures that the data needed is accurate, valid, and reliable.

2.2. Factors Affect the Performance of Accounting Information Systems

Based on the research conducted by Soegiharto (2001) suggested that the factors that affect accounting information systems performance are:

1. User participation in accounting information system development
   Jen (2002) argued user participation frequently will improve AIS performance due to the positive correlation between user participations in the information system development process with AIS performance.
2. The ability of personal techniques in information system
   Anderson in Soegiharto (2001) proposes the potential for user contributions has to be higher during the planning and implementation stages of system development. Users better understand the technology, tasks and decisions involved, and the socio-political environment in which the system will be used, the more likely they can contribute to the system development.
3. Organizational size
   The number of employees is the most common organizational size criteria used by DeLone researcher, in Soegiharto, 2001. In this research, organizational size was measured by the number of employees. Jen (2002) suggested that the greater the organizational size is, the more improvement of the performance of AIS will be, due to the positive correlation between organizational size with AIS performance.
4. Top Management Support
   According to Handoko (2000) top management support is top management consisting of a small group of executives. Often referred as the President Director, Deputy Director, Senior Vice President, Head of Division and so on. In Komara's research (2005) top Management Support included funding guarantees and development priorities. The support and participation of management holds an important use to the successful of information systems implemantation. It is not only important for the allocation of resources needed, but also provides a strong signal for employees that the changes done is important.
5. Formalization of information systems development
   The failure of new information system development is caused by not concerning the organizational aspects. These behavioral and organizational changes can be the form of Davis system development (1998). Therefore, the development of information systems requires careful planning and implementation to avoid any rejection of the

developing system. Jen (2002) argued that the higher the level of formalization of information system development in the company is, will improve the performance of AIS, due to the positive correlation between the formalization of system development with performance.

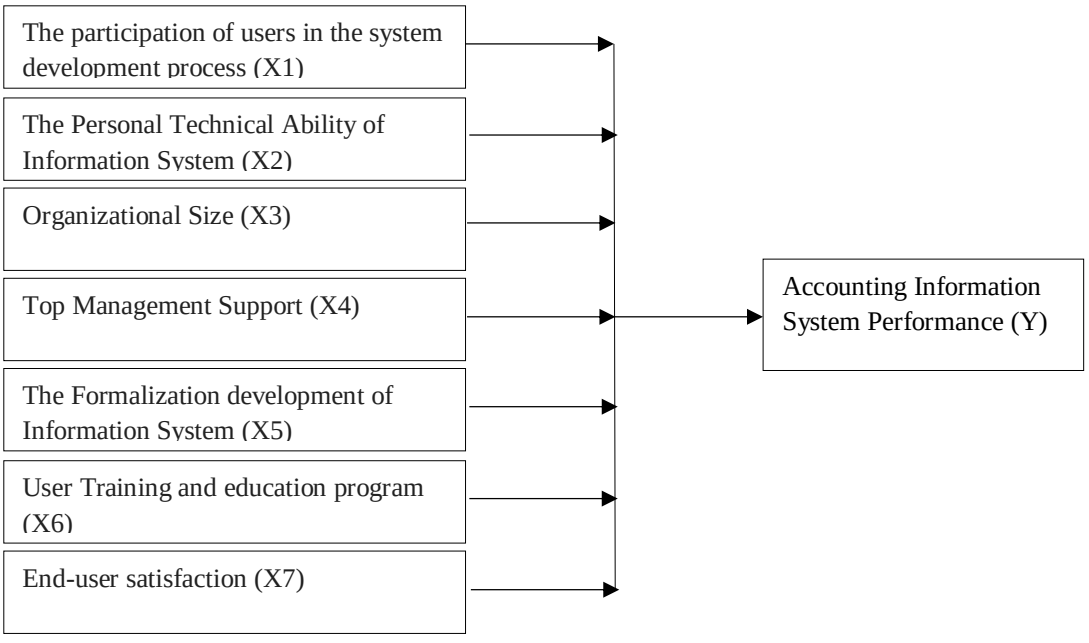
6. Trainning and education program for users
   Brady in Soegiharto (2001) goes further as to suggest that the lack of education is the main reason for the lack of utilization of information systems.
7. End-User Satisfaction
   Delone and McLean (1992) cited by Soegiharto (2001) emphasize when an information system is needed, the use of the system will be lacking and the success of management with information systems can determine end-user satisfaction.

2.3. Review of Previous Research

Soegiharto (2001) conducted the research with the objects of companies listed on the Data Disk ASX or the Who's Who Disk Australian Business in Australia. The results of the research found only user participation factors significantly and positively affect the use of the system, while the organizational size factor and formalization of system development with system usage and organizational size factors with the user satisfaction of information system were also significantly related but the relationship was negatively correlated while other factors had not been proven to have a relationship with AIS performance. The existence of a steering committee also made a difference to the performance of AIS in company that does have it or not.

Jen (2002) aimed to find out what factors can improve the performance of AIS. She conducted the re-examined research of Soegiharto (2001). According to the research that has been done by her revealed that the higher the level of formalization applied by the company in the information system development process was, the higher user satisfaction would be, but the lower the use of the system was. In addition, the research also showed that user satisfaction in company, whose information system departments were in other departments, would be higher than companies whose information system seperated and independent.

Almilia and Briliantien (2007) intended to find empirical evidence about the factors that influence the performance of AIS. The results of the research found there were two of eight factors influence the performance of AIS, namely training and education and the existence of an information system steering board.



2.4. Research Hypothesis

1. User participation in the system development process, personal capability, organizational size, top management support, formalization of information system development, user training and education programs, and end-user satisfaction partially influence the performance of accounting information systems.
2. User participation in the system development process, personal capability, organizational size, top management support, formalization of information system development, user training and education programs, and end-user satisfaction simultaneously influence the performance of accounting information systems.

3. Research Methodology

This research belongs to causal research, to see the correlation of several uncertain variables, Umar (2008). The population of this research was 287 respondents from the manager of Information Technology at Consumer goods companies. the census method was used in research sample which all members of the population were sampled. The type of data was primary data and the measurement scale was the interval scale. The collection method of primary data used questionnaire instruments filled by respondents. To obtain the data, the questionnaire was delivered directly to the respondent and given a chance to answer the questionnaire for two weeks, and then the questionnaire was collected by the researcher. This research used Likert attitude scale, namely a scale with a range of answers 1 to 5.

3.1. The Method of Data Analysis

In testing the hypothesis proposed, the data obtained was processed according to the needs of the analysis. For the purposes of discussion, data was processed and presented based on the principles of descriptive statistics, while for the analysis importances and hypothesis testing, inferential statistics were used. To test the hypothesis, multivariate analysis and Structural Equation Modeling (SEM) by using the AMOS program was used The determination of significant or not in the SEM Bayes approach used a credible interval value, Ghozali (2014: 349) states if the range of the lower and upper bound intervals contains the number of 0, the affect is not statistically significant.

4. Research Finding and Discussion

4.1. Structural Equation Model (SEM) Analysis

4.1.1. Validity

The validity test results revealed all indicators (manifest variable) have a loading factor (λ) $\geq$ 0.5, so all indicators on CFA User participation in the system development process (X1), the personal technical ability y of Information System (X2), Organizational Size (X3), Top Management Support(X4), the Formalization of Information System development (X5), User training and education program (X6), end-user satisfaction (X7), and AIS performance (Y) were valid or significant.

4.1.2. The Reliability of the CFA

From the Reliability test, users participation of CFA in the system development process (X1), the personal technical ability of Information Systems (X2), Organizational Size (X3), Top Management Support(X4), the Formalization of the Information System

development (X5), user training and education programs (X6), end-user satisfaction (X7), and AIS performance (Y) have a CR value of ≥ 0.7 and VE value ≥ 0.5, it was reliable.

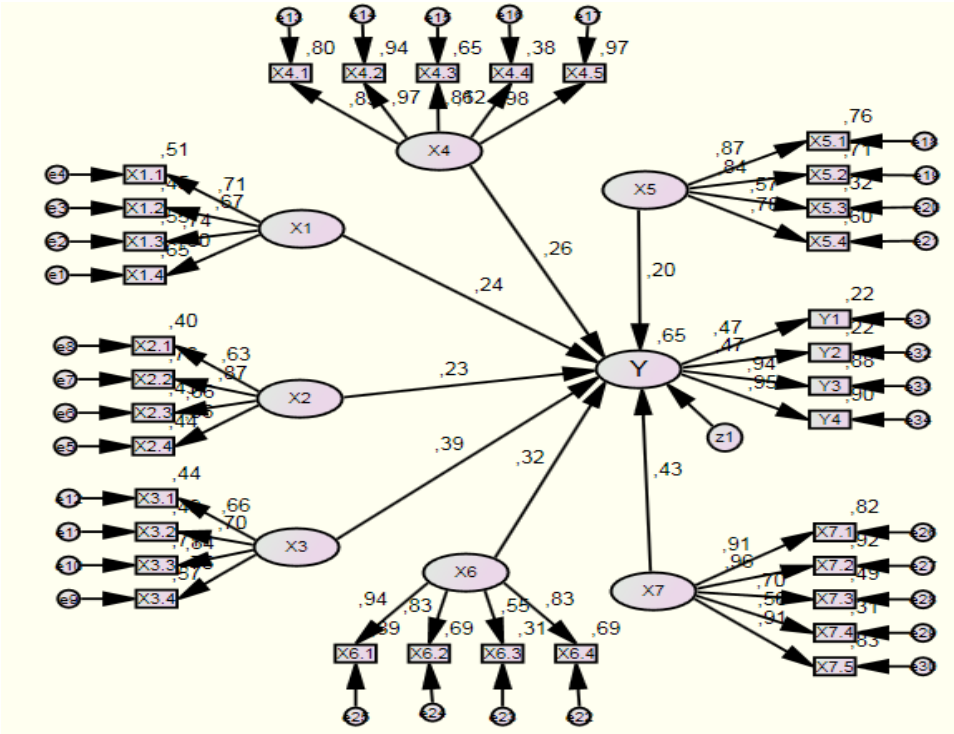
Goodness of Fit Research Model Testing (before modification)

Based on the results of testing Goodness of Fit Research Model Testing showed that the RMSEA value of 0.073 was a Fit model, while based on the other indicators, the model was quite fit.

Goodness of Fit Research Model Testing (after modification)

The results of testing Goodness of Fit Research Model Testing showed that the value of RMSEA 0.056 indicated the Fit model, as well as other indicators was model fit.

Structural Model Equations



As indicated in figure above, the following structural equations are obtained: Y = 0,239 * X1 + 0,227 * X2 + 0,388 * X3 + 0,256 * X4 + 0,202 * X5 + 0,202 * X6 + 0,323 * X7, Errorvar = 0,346, R^2 = 0,654

4.2. Hypothesis Testing Results

4.1. Partial Test Results (t-test)

Table 1: partial test result (t-test)

Affect	T count	Sig	Information	Conclusion
X1→Y	3,900	0,000	Ho rejected	Significant
X2→Y	3,687	0,000	Ho rejected	Significant
X3→Y	5,134	0,000	Ho rejected	Significant
X4→Y	4,397	0,000	Ho rejected	Significant

X5→Y	3,570	0,000	Ho rejected	Significant
X6→Y	4,920	0,000	Ho rejected	Significant
X7→Y	5,745	0,000	Ho rejected	Significant

The results is provided in table 1, the value of t-count of user participation in the system development process (X1), the personal technical capability of Information System (X2), organizational size (X3), top management support (X4), the formalization of the Information System development (X5), user training and education program (X6), end-user satisfaction (X7) on AIS performance (Y) reveal Sig value is lower than α (0.05), then Ho_1 is rejected, it means that the user participation in system development process (X1), the personal technical ability of Information System (X2), organizational size (X3), top management support (X4), the formalization of the Information System development (X5), Training and user education program (X6), end-user satisfaction (X7) have a significant influence on AIS Performance (Y).

4.2. Simultaneous Test Results (F-test)

F = ((

$$\frac{((n-k-1)(R^2)}{k\ (1-R^2)}$$

F= $\frac{((217-7-1)(0{,}654)}{7(1-0{,}654)}$

Fcount = 56,435

 = 5% and df1 = k = 6, df2 = n-k-1 = 217-7-1 = 209, the value of F table is ± 2.054.

Based on the following test criteria:

1. Accept Ho if F-count <F table
2. Reject Ho if F-count > F table

Based on the calculation above, it could be obtained F-count value is 56.435. Because of the value of F count (56.435) > F table (2.054), Ho is rejected.

4.3. Direct Influence

Table 2: Direct Influence

Variable	Path coefficient	Direct Influence
User participation in the system development process	0,239	0,057
The technical capability of personal Information System (X2),	0,227	0,052
Organizational Size (X3),	0,388	0,151
Top Management Support(X4)	0,256	0,066
The Formalization of the Information System development (X5),	0,202	0,041
User training and education Program (X6)	0,323	0,104
End-user satisfaction (X7)	0,428	0,183

Source: the result of Primary Data

As shown in table 2: the direct influence of the user participation in the system development process (X1) is 0.057, the personal technical capability of Information Systems (X2) is 0.052, Organizational Size (X3) is 0.151, Top Management

Support(X4) is 0.066, the Formalization of the development Information System (X5) is 0.041, user trainng and education program (X6) is 0.104, and end-user satisfaction (X7) is 0.183 significantly affect on AIS Performance (Y).

Discussion

1. The Simultaneous hypothesis testing results showed that the participation of users in the system development process (X1), the personal technical ability of Information Systems (X2), Organizational Size (X3), Top Management Support (X4), the Formalization of the Information System development (X5), User Training and education program (X6), end-user satisfaction (X7) together significantly affect on AIS Performance. We could see the value of sig is lower than alpha and the value of F-count is higher than F-table. Therefore, it turned out that all independent variables simultaneously affect the dependent variable.
2. The test results partially indicated that the participation of users in the system development process (X1), the personal technical ability of information system (X2), Organizational Size (X3), Top Management Support(X4), the Formalization of the Information System development (X5), User trainning and education program (X6), end-user satisfaction (X7) significantly affect on AIS performance because the Sig value is lower than α (0.05). The successful of the information system development depends largely on the success of the expectations of system analysts, users, sponsors and customers. The changes from manual systems to computerized systems not only involve technological changes but also behavioral and organizational changes. The failure of new information system development is caused by not concerning to organizational aspects. Jen (2002) argued that the higher the level of the formalization of information system development in the company is, the more improvement AIS performance will be due to the positive correlation between the formalization of the system development with AIS performance. The result of this research was in line with the results of Nurhayanti's research (2012) which the formalization of the information system development has a positive and significantly affect on AIS performance.

5. Conclusions and Suggestions

5.1. Conclusion

Based on the results of this research and discussion carried out in the previous chapter, the conclusion could be drawn as follows:

1. User participation in the system development process, the personal technical ability of Information Systems, Organizational Size, Top Management Support, the Formalization of the Information System development, user training and education programs, and end-user satisfaction partially have a significant affect on AIS Performance.

2. User participation in the system development process, the personal technical ability of Information Systems, Organizational Size, Management Support, the Formalization of the Information System development, user training and education programs, and end-user satisfaction simultaneously have a significant affect on AIS Performance.

5.2. Suggestion

Based on the conclusions, the improvements suggested by researcher are follows:

1. Based on the limitations of this research, for further researchers who want to examine the performance of AIS, it is recommended to add other variables related to AIS performance such as the existence of an Information System steering committee, and the location of the Information Systems department.
2. The next researcher is expected to use a questionnaire, it is also recommended to complete it through interview to get more accurate information.
3. It is proposed to increase the number of members of the population / sample who is not only in Medan but also other regions in order to obtain more representative results.

REFERENCE

Almilia, Luciana Spica and Briliantien. (2007). Factors Affecting the Performance of Accounting Information Systems at Government Commercial Banks in Surabaya and Siduarjo Areas. *Scientific journals. STIE Perbanas*. Surabaya.

Choe, J.M., (1996). "The Relationships Among Performance of Accounting Information Systems, Influence Factors, and Evolution Level of Information Systems". *Journal of Management Information System / Spring*. Vol. 12 No. 4. pp. 215-239.

DeLone, W.H. and McLean, E.R. (1992). "Information System Success: The Quest for the Dependent Variable*". Information System Research*. 3 (1) (March). Pp. 60-94.

Davis, F. (1998). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*.

Ghozali, Imam. (2005), *Application of Multivariate Analysis with SPSS Program*, Issue 3, Diponegoro University Publishing Agency, Semarang.

Gelinas, Oram. (2004). *Accounting Information System* (5 th edition). Cincinnati, Ohio: South - Western Colloge Publishing

Handoko, T.Hani. (1992). "*Personnel Management and Human Resources*". Second Edition, BPFE UGM. Yogyakarta.

Ives, Blake, Margrethe H. Olson, and Jack Joseph Baroudi. (1983). The Measurement of User Information Satisfaction. *NYU Working Paper*No.IS- 82-27.

Jen, Tjhai Fung. (2002). "Factors Affecting the Performance of Accounting Information Systems," *Journal of Business and Accounting* Volume IV No. 2

Komara, Asep, 2005, Analysis of Factors Affecting the Performance of Accounting Information Systems, *Journal of SNA* 8, Pages 836-848.

Nurhayanti, Yunita. (2012). Analysis of Factors Affecting the Performance of Accounting Information Systems at Minimarkets in the Jakarta Region. *Accounting Scientific Journal. Gunadarma University*. Jakarta

Soegiharto. (2001). Influence Factors Affecting The Performance Of Accounting Information System. *Gajah Mada International Journal of Business* Volume III No. 2. [11]

Tambunan, Tulus. 2001. Performance, Problems and Prospects of SMES in Indonesia Hope and Reality ", Papers, Small Business Development Seminar One Day

Umar, Husein. (2008). Research Methods for Thesis and Business Thesis, Second Edition, PT. Raja Grafindo Persada, Jakarta.